

WHAT IS CLAIMED IS:

1. A CVT transmission for motor vehicles, in particular for agricultural tractors, said CVT
5 transmission comprising equipment for continuous variation of the motion in terms of torque and
of speed delivered, said continuous variation being obtained between two shafts; a CVT
transmission in which said equipment for continuous variation of the motion comprises first
mechanical means with fixed transmission ratio, and second mechanical means with variable
transmission ratio, there being set between said first mechanical means and said second
10 mechanical means an epicyclic gear train; said CVT transmission being characterised in that the
input of the motion from an engine occurs in a direction substantially parallel to an axis of
longitudinal symmetry of the motor vehicle, whilst the axes of said shaft, respectively, are set
transverse to said axis of longitudinal symmetry of the motor vehicle.
- 15 2. The CVT transmission as claimed in claim 1, in which an axis of a differential is
transverse to said axis of longitudinal symmetry of the motor vehicle.
3. The CVT transmission as claimed in claim 2, in which the axes of said shaft and
differential are substantially parallel to one another.
- 20 4. The CVT transmission as claimed in claim 3, in which the variable transmission ratio
obtained by means of said second mechanical means is controlled by a group selected from
hydraulic, mechanical and electrical means.
- 25 5. The CVT transmission as claimed in claim 4, in which said epicyclic gear train comprises
a central gear fitted on said shaft, whilst said mechanical means drive a spider, to which there is
associated a plurality of planetary gears, the teeth of which mesh with the internal teeth of a
crown gear, the speed of said crown gear being an algebraic sum of the speeds of a gear wheel
fitted on said shaft and of said mechanical means fixed to said spider.

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6. The CVT transmission as claimed in claim 5, in which a gear wheel, fixed to said crown gear of axis, meshes with a gear wheel of the differential, said gear wheel being designed to rotate about an axis of longitudinal symmetry of said differential, said axis being parallel to the aforementioned axes.

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7. The CVT transmission as claimed in claim 5, in which at least one pair of gear wheels, fixed to said crown gear of axis, is designed to mesh with respective gear wheels of the differential, said gear wheels being designed, moreover, to be set in rotation about an axis of longitudinal symmetry of said differential, said axis being parallel to the aforementioned axes.

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8. The CVT transmission as claimed in claim 7, in which the transmission ratio between said axes can be selected by means of a sliding toothed shaft coupling and by means of a servo control.

15 9. The CVT transmission as claimed in claim 8, in which said sliding toothed shaft coupling envisages a neutral position.

10. The CVT transmission as claimed in claim 9, in which the input shaft of the motion from said engine to said transmission is provided with a clutch.

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11. The CVT transmission as claimed in claim 10, in which said clutch performs also the functions of a torque-limiter coupling.

12. The CVT transmission as claimed in claim 11, in which said engine drives two coaxial
25 shafts, said external shaft driving said transmission, whilst said internal shaft drives a series of shafts of a power take-off (PTO).

13. The CVT transmission as claimed in claim 12, in which said shaft of the power take-off (PTO) is provided with a clutch.

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14. The CVT transmission as claimed in claim 12, in which said shaft passes in the space between said gear wheels of said differential.

15. The CVT transmission as claimed in claim 7, in which said gear wheel carries fixed to it a crown bevel gear which meshes with a pinion gear, which transmits the motion to the front wheels of the motor vehicle by means of mechanical transmission means.

16. The CVT transmission as claimed in claim 3, in which said axes and an axis of the gear shafts of the rear wheels are arranged spatially substantially in the form of a quincunx.

17. The CVT transmission as claimed in claim 1, in which the elements that make up said equipment for continuous variation of the motion are mounted in cantilever fashion on said shafts, so as to be housed in two guards separated from one another and easily accessible from outside.

18. The CVT transmission as claimed in claim 17, in which said second mechanical means are housed in a first guard, whilst said first mechanical means and said epicyclic gear train are housed in a second guard.

19. The CVT transmission as claimed in claim 18, in which associated to said shafts and are respective bearings and set on a wall of said first guard, said wall facing said second guard.

20. The CVT transmission as claimed in claim 1, in which provided on said shaft is a torque-limiting device.

21. The CVT transmission for motor vehicles, in particular for agricultural tractors, said CVT transmission comprising equipment for continuous variation of motion in terms of torque and of speed delivered, said continuous variation being obtained between two shafts; a CVT transmission, in which said equipment for continuous variation of motion comprises first mechanical means with fixed transmission ratio, and second mechanical means with variable

transmission ratio, there being set between said first mechanical means and said second mechanical means an epicyclic gear train; said CVT transmission being characterised in that the input of the motion from an engine occurs in a direction that is substantially transverse with respect to an axis of longitudinal symmetry of the motor vehicle, as likewise the axes of said shaft, are transverse to said axis of longitudinal symmetry of the motor vehicle, and in that a guard is provided, which is designed to contain separately said second mechanical means with variable transmission ratio.

22. The CVT transmission for motor vehicles, in particular for agricultural tractors, said CVT transmission comprising equipment for continuous variation of the motion in terms of torque and of speeds delivered, said continuous variation being obtained between two shafts;

a CVT transmission in which said equipment for continuous variation of the motion comprises first mechanical means with fixed transmission ratio, and second mechanical means (19) with variable transmission ratio, there being set between said first mechanical means and said second mechanical means an epicyclic gear train and in which the input of the motion from an engine occurs in a direction that is substantially parallel to an axis of longitudinal symmetry of the motor vehicle, whilst the axes, of said shaft and said shaft, respectively, are transverse with respect to said axis of longitudinal symmetry of the motor vehicle; said CVT transmission being characterised in that said second mechanical means and said epicyclic gear train are always the same for any power to be transmitted, whereas it is possible to change - according to the power - either a crown-wheel-and-pinion assembly for input of the power coming from said engine, or else said first mechanical means, with fixed transmission ratio.